

## AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

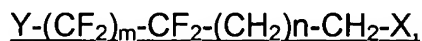
### LISTING OF CLAIMS

1. – 10. (Cancelled)

11. (Currently Amended) ~~The method as claimed in claim 7A~~ method of fabricating a layer on a substrate, the method comprising:

forming the layer, the step of forming the layer including using carbon dioxide;  
and

the step of forming the layer including depositing a sulphur-containing compound that includes a moiety represented by the formula:



where X is sulphur,

Y is a functional group,

m and n denote a number of fluorinated and non-fluorinated carbon atoms,  
respectively, and

~~wherein~~ m and n lie within the range of 1 to 20.

12. (Previously Presented) The method as claimed in claim 11, wherein m and n lie within the range of 5 to 10.

13. (Previously Presented) The method as claimed in claim 12, where m is 8 and n is 10.

14. (Currently Amended) The method as claimed in claim ~~[[7]]~~ 11, wherein Y further includes at least one of vinyl, styryl, acryloyl, methacryloyl ~~or~~ and alkyne in combination with a spacer group.

15. (Currently Amended) The method as claimed in claim 14, wherein the spacer group includes at least one of CH<sub>2</sub> ~~or~~ and CF<sub>2</sub>.

16. (Currently Amended) The method as claimed in claim 11, wherein the substrate includes at least one of ~~glass, mica, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Ga<sub>2</sub>O<sub>3</sub>, or ITO~~ gold, silver, copper, iron, mercury, palladium, gallium arsenide, ferrous oxide, and indium tin oxide.

17. (Currently Amended) ~~The method as claimed in claim 16, wherein the substance includes a semi-fluorinated silane derivative of the formula:~~

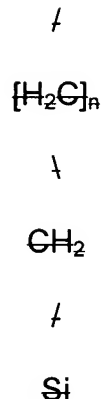
Y

/

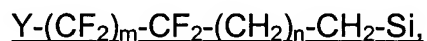
[F<sub>2</sub>C]<sub>m</sub>

\

CF<sub>2</sub>



A method of fabricating a layer on a substrate, the method comprising:  
forming the layer, the step of forming the layer including using carbon dioxide;  
and  
the step of forming the layer including depositing a silicon containing compound  
that includes a moiety represented as the formula:



where Y ~~includes~~ is a functional group; and  
 m and n denote respectively the number of fluorinated and non-fluorinated  
 carbon atoms, respectively; and  
m and n lie within the range of 1 to 20.

18. (Currently Amended) The method as claimed in 17, wherein the  
compound has an alkoxy group on the Si atom ~~includes a trialkoxy derivative.~~

19. (Currently Amended) The method as claimed in claim 18, wherein  
the compound has a chlorine atom on the Si atom ~~includes at least one of~~  $SiCl_3$ ,  
 $Si(OCH_3)_3$ ,  $Si(OCH_2CH_3)_3$ ,  $Si(OCH_3)_2Cl$  or  $Si(CH_2CH_3)_2Cl$ .

20. (Previously Presented) The method as claimed in claim 17, wherein Y includes a CF<sub>3</sub> functional group.

21. (Currently Amended) The method as claimed in claim 17, wherein ~~m and n lie within the range of 1 to 20~~ the substrate includes at least one of glass, mica, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, Ga<sub>2</sub>O<sub>3</sub>, and ITO.

22. (Previously Presented) The method as claimed in claim 21, wherein m and n lie within the range of 5 to 10.

23. (Previously Presented) The method as claimed in claim 22, wherein m is 6 and n is 1.

24. (Currently Amended) The method as claimed in claim 17, wherein Y further includes at least one of vinyl, styryl, acryloyl, methacryloyl, and ~~or~~ alkyne in combination with a spacer group.

25. (Previously Presented) The method as claimed in claim 24, wherein the spacer group includes at least one of CH<sub>2</sub> or CF<sub>2</sub>.

26. (Currently Amended) The method as claimed in claim 11, wherein the layer has an ellipsometry thickness of about 30Å and a water contact angle of about 110°.

27. – 30. (Canceled)

31. (NEW) The method as claimed in Claim 17, wherein the layer has an ellipsometry thickness of about 30Å and a water contact angle of about 110°.

32. (NEW) The method according to claim 11, the step of forming the layer including using a supercritical condition.

33. (NEW) The method of claim 11, the step of forming the layer including using a co-solvent in combination with carbon oxide.

34. (NEW) The method as claimed in claim 33, wherein the co-solvent comprises at least one of H<sub>2</sub>O, CH<sub>3</sub>OH, CF<sub>3</sub>OH, CF<sub>3</sub>CH<sub>2</sub>OH, CF<sub>3</sub>CF<sub>2</sub>OH, (CF<sub>3</sub>)<sub>2</sub>CHOH, CH<sub>4</sub>, C<sub>2</sub>H<sub>4</sub>, C<sub>2</sub>F<sub>6</sub>, CHF<sub>3</sub>, CClF<sub>3</sub>, C<sub>2</sub>H<sub>6</sub>, SF<sub>6</sub>, propylene, propane, NH<sub>3</sub>, pentane, <sup>i</sup>PrOH, MeOH, EtOH, <sup>i</sup>BuOH, benzene, and pyridine.

35. (NEW) The method according to claim 17, the step of forming the layer including using a supercritical condition.

36. (NEW) The method according to claim 17, the step of forming the layer using a co-solvent in combination with carbon oxide.

37. (NEW) The method as claimed in claim 36, wherein the co-solvent comprises at least one of  $\text{H}_2\text{O}$ ,  $\text{CH}_3\text{OH}$ ,  $\text{CF}_3\text{OH}$ ,  $\text{CF}_3\text{CH}_2\text{OH}$ ,  $\text{CF}_3\text{CF}_2\text{OH}$ ,  $(\text{CF}_3)_2\text{CHOH}$ ,  $\text{CH}_4$ ,  $\text{C}_2\text{H}_4$ ,  $\text{C}_2\text{F}_6$ ,  $\text{CHF}_3$ ,  $\text{CClF}_3$ ,  $\text{C}_2\text{H}_6$ ,  $\text{SF}_6$ , propylene, propane,  $\text{NH}_3$ , pentane,  $^i\text{PrOH}$ ,  $\text{MeOH}$ ,  $\text{EtOH}$ ,  $^i\text{BuOH}$ , benzene, and pyridine.